

Laboratory Report Number: L13110584

Mark Lyon
Environmental Waste Solutions
2440 Louisiana Blvd
Albuquerque, NM 87110

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on November 25 2013



David Vandenberg – Managing Director

State of Origin: NM
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1 without flagging



Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution
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Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00110665	I	0.0		1002241121210004575000804334337753	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	NA

Lab Report #: L13110584

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
MPL 21-1113-1	L13110584-01	11/08/2013 11:55	11/09/2013 09:53
MPL 21-1113-MS	L13110584-02	11/08/2013 11:55	11/09/2013 09:53
MPL 21-1113-MSD	L13110584-03	11/08/2013 11:55	11/09/2013 09:53



Login Number: L13110584
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75117
Approved By: Deanna Hesson

A handwritten signature in black ink, appearing to read "Deanna Hesson", is written over a horizontal line.



Login Number: L13110584
Department: Metals
Analyst: Qin Xu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: WG452633 - The method blank associated with this analytical batch yielded a result for zinc of 0.0117 mg/L which exceeded the LOD but was less than the LOQ. However, sample 01 yielded a nondetected result for zinc. With permission of the project chemist the zinc results were reported and no further action was taken.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG452633 - All acceptance criteria were met.

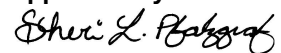
Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG452633 - Client samples 01, 02, 03 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 74485

Approved By: Sheri Pfalzgraf





Login Number: L13110584
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG452576 - All acceptance criteria were met.

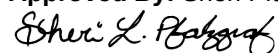
Matrix Spikes: WG452576 - Sample 01 was chosen by the client for MS/MSD analysis. Samples 02(MS) and 03(MSD) met all acceptance criteria.

SAMPLES

Samples: WG452576 - Due to time constraints, client samples 01, 02, and 03 were analyzed on a later calibration.

Narrative ID: 74737

Approved By: Sheri Pfalzgraf





Login Number: L13110584
Department: General Chromatography
Analyst: Jeremy Kinney

METHOD

Analysis EPA300.0/SW846 9056

HOLDING TIMES

Sample Analysis: Hold times for NO₂ and NO₃ are 48 hours and the hold times for F, Cl, Br, and SO₄ are 28 days. The hold time forms calculate the hold time based on 48 hours. All samples were analyzed in hold.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recovery for fluoride in both the matrix spike and matrix spike duplicate fell marginally below the lower control limit.

SAMPLES

Samples: All acceptance criteria were met.

MANUAL INTEGRATION: No manual integration required.

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Narrative ID: 74803
Approved By: Eric Lawson

A handwritten signature in black ink, appearing to read "Eric Lawson", is written over a light gray rectangular background.



Login Number: L13110584
Department: Conventional
Analyst: Deanna Hesson

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Alkalinity, Total (as CaCO₃), Alkalinity, Bicarbonate (as CaCO₃), Alkalinity, Carbonate (as CaCO₃). Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L13110584-02	Alkalinity, Total (as CaCO ₃)	2013-11-12 17:01:40	55.3	85	115	Recovery
L13110584-02	Alkalinity, Bicarbonate (as CaCO ₃)	2013-11-12 17:01:40	55.3	85	115	Recovery
L13110584-02	Alkalinity, Carbonate (as CaCO ₃)	2013-11-12 17:01:40	0.000	85	115	Recovery
L13110584-03	Alkalinity, Bicarbonate (as CaCO ₃)	2013-11-12 17:02:34	55.8	85	115	Recovery

Duplicates: All acceptance criteria were met.

SAMPLES

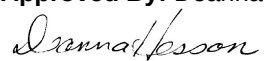
Samples: All acceptance criteria were met.

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verified by the following signature.

Narrative ID: 75115

Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson".



Login Number: L13110584
Department: Conventionals
Analyst:

METHOD

Analysis SW846 9014/9010C/SM4500-CN-C,E-20th (Cyanide)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Cyanide-Ammonable is the difference between the total cyanide and the treated cyanide. The LCS is analyzed to show that all of the cyanide is amenable (the treated portion is ND). The LCS forms cannot calculate cyanide amenable. The LCS is acceptable.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG452812-02	Cyanide	2013-11-14 15:45:03	1.00	90	110	Recovery

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

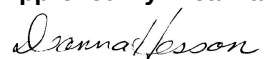
SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74623

Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson".



Login Number: L13110584
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 120.1/SM2510 B (Conductivity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Conductivity. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L13110584-02	Conductivity	2013-11-11 16:37:43	-1.04	0	0	Recovery
L13110584-03	Conductivity	2013-11-11 16:39:38	-1.17	0	0	Recovery

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75116

Approved By: Deanna Hesson

Deanna Hesson



Login Number: L13110584
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 350.1/SM4500-NH3 B(NH3)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Nitrogen, Ammonia. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L13110584-02	Nitrogen, Ammonia	2013-11-19 10:01:15	41.0	90	110	Recovery
L13110584-03	Nitrogen, Ammonia	2013-11-19 10:02:45	47.9	90	110	Recovery

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75118

Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson".



Login Number: L13110584
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: The instrument used for the analysis of nitrate only analyzes for nitrate-nitrite (NO₃NO₂) which is the amount of total nitrate (NO₃) and nitrite (NO₂) combined. The NO₃ concentration is determined by analyzing for NO₃NO₂ and NO₂ and calculating NO₃ by the difference. An unpreserved bottle only has a 48 hour hold time for NO₃ and NO₂ separately. However if the bottle is preserved with sulfuric acid, the hold time for NO₃NO₂ is 28 days. The NO₂ was analyzed within 48 hours. The NO₃NO₂ was analyzed from a preserved container within 28 days..

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Nitrate-Nitrite (as N). Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L13110584-03	Nitrate-Nitrite (as N)	2013-11-13 16:00:00	112	90	110	Recovery

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75119

Approved By: Deanna Hesson

Deanna Hesson



Login Number: L13110584
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 365.2/SM4500-P E (Orthophosphate)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75120
Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson", is written over a horizontal line.



Login Number: L13110584
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.1/SM2540 C(Total Dissolved Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75123
Approved By: Deanna Hesson

A handwritten signature in black ink, appearing to read "Deanna Hesson", is written over a horizontal line.



Login Number: L13110584
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis Water: EPA 415.1/SM5310C/SW846 9060 (Total Organic Carbon)
Soil: Lloyd-Khan Methodology

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75121
Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson", written in black ink.



Login Number: L13110584
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.2/SM2540 D (Total Suspended Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 75122
Approved By: Deanna Hesson

A handwritten signature in black ink, appearing to read "Deanna Hesson", is written over a horizontal line.

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: MPL 21-1113-1	Prep Method: 3015	Prep Date: 11/13/2013 10:02
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/13/2013 09:22
Workgroup #: WG452633	Analyst: QX	Run Date: 11/13/2013 13:57
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: T2.111313.135752
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	5.01		0.500	0.250
Potassium, Total	7440-09-7	2.27		1.00	0.500
Sodium, Total	7440-23-5	19.7		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2	0.00875	J	0.0100	0.00500
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: MPL 21-1113-1	Prep Method: 3015	Prep Date: 11/13/2013 10:02
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/14/2013 08:35
Workgroup #: WG452633	Analyst: QX	Run Date: 11/14/2013 09:47
Collect Date: 11/08/2013 11:55	Dilution: 10	File ID: T2.111413.094710
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	34.8		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 21-1113-1	Prep Method: 3015	Prep Date: 11/12/2013 14:16
Matrix: Water	Analytical Method: 6020	Cal Date: 11/18/2013 09:55
Workgroup #: WG452576	Analyst: JYH	Run Date: 11/18/2013 18:13
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: NI.111813.181332
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00293		0.00100	0.000500
Barium, Total	7440-39-3	0.0524		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00352		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5		U	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00169		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 21-1113-1	Prep Method: 7470A	Prep Date: 11/12/2013 07:37
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/13/2013 09:47
Workgroup #: WG452567	Analyst: PDM	Run Date: 11/13/2013 11:54
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: M7.111313.115412
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: IC2
Client ID: MPL 21-1113-1	Prep Method: 300.0	Prep Date: 11/19/2013 09:16
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/05/2013 14:51
Workgroup #: WG453381	Analyst: JBK	Run Date: 11/19/2013 15:34
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: I2_111913-25
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	12.5		0.200	0.100
Fluoride	16984-48-8	0.319		0.200	0.100
Sulfate	14808-79-8	48.3		1.00	0.500

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 21-1113-1	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG452284	Analyst: DIH	Run Date: 11/09/2013 10:36
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: OS1311221115401
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.68		0.000	0.000
Temperature At Determination (C)		12.8		0.000	0.000

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-1	Prep Method: 310.2	Prep Date: 11/12/2013 17:01
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.024
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	108		20.0	10.0

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-1	Prep Method: 310.2	Prep Date: 11/12/2013 17:01
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.024
Sample Tag: 02	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO ₃)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 11:40
Workgroup #: WG452340	Analyst: DIH	Run Date: 11/12/2013 11:53
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112001.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO ₃)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-1	Prep Method: 310.2	Prep Date: 11/12/2013 17:01
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.024
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	108		20.0	10.0

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 11:40
Workgroup #: WG452340	Analyst: DIH	Run Date: 11/12/2013 11:53
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112001.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	98.3		20.0	10.0

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-1	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/14/2013 11:30
Workgroup #: WG452812	Analyst: DCM	Run Date: 11/14/2013 15:45
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141545-10
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-1	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/14/2013 11:30
Workgroup #: WG452580	Analyst: DCM	Run Date: 11/14/2013 15:30
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141530-13
Sample Tag:	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Cyanide		57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-1	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/14/2013 11:30
Workgroup #: WG452581	Analyst: DCM	Run Date: 11/14/2013 15:50
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141550-11
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 21-1113-1	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG452195	Analyst: DIH	Run Date: 11/11/2013 16:35
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: TI.111113.1635CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		328		50.0	10.0

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 21-1113-1	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/19/2013 09:41
Workgroup #: WG453359	Analyst: BAF	Run Date: 11/19/2013 10:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: SC131119001.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 21-1113-1	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/13/2013 13:48
Workgroup #: WG452422	Analyst: BAF	Run Date: 11/13/2013 16:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: SC13111808420501
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		1.53		0.0500	0.0250

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-1	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG452920	Analyst: DIH	Run Date: 11/09/2013 10:45
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311091045-05
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 21-1113-1	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG452533	Analyst: ADG	Run Date: 11/13/2013 10:09
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: EN.1311131009-11
Sample Tag: 3	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		216		20.0	10.0

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 21-1113-1	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG452616	Analyst: BAF	Run Date: 11/14/2013 04:22
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: TC11132013.045
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	0.734	J	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.				

Certificate of Analysis

Sample #: L13110584-01	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 21-1113-1	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG452674	Analyst: ADG	Run Date: 11/14/2013 06:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: EN.1311140600-07
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: MPL 21-1113-MS	Prep Method: 3015	Prep Date: 11/13/2013 10:02
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/13/2013 09:22
Workgroup #: WG452633	Analyst: QX	Run Date: 11/13/2013 14:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: T2.111313.140122
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7	0.0307		0.00200	0.00100
Magnesium, Total	7439-95-4	10.9		0.500	0.250
Potassium, Total	7440-09-7	33.1		1.00	0.500
Sodium, Total	7440-23-5	50.2		0.500	0.250
Tin, Total	7440-31-5	0.670		0.500	0.250
Vanadium, Total	7440-62-2	0.622		0.0100	0.00500
Zinc, Total	7440-66-6	0.620		0.0200	0.0100

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: MPL 21-1113-MS	Prep Method: 3015	Prep Date: 11/13/2013 10:02
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/14/2013 08:35
Workgroup #: WG452633	Analyst: QX	Run Date: 11/14/2013 09:50
Collect Date: 11/08/2013 11:55	Dilution: 10	File ID: T2.111413.095041
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	41.1		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 21-1113-MS	Prep Method: 3015	Prep Date: 11/12/2013 14:16
Matrix: Water	Analytical Method: 6020	Cal Date: 11/18/2013 09:55
Workgroup #: WG452576	Analyst: JYH	Run Date: 11/18/2013 18:16
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: NI.111813.181637
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0615		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0645		0.00100	0.000500
Barium, Total	7440-39-3	0.112		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0601		0.000600	0.000300
Chromium, Total	7440-47-3	0.0614		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0586		0.00100	0.000500
Copper, Total	7440-50-8	0.0613		0.00200	0.00100
Lead, Total	7439-92-1	0.0590		0.00100	0.000500
Manganese, Total	7439-96-5	0.0610		0.00200	0.00100
Nickel, Total	7440-02-0	0.0606		0.00400	0.00200
Selenium, Total	7782-49-2	0.0616		0.00100	0.000500
Silver, Total	7440-22-4	0.0635		0.00100	0.000500
Thallium, Total	7440-28-0	0.0606		0.000200	0.000100

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 21-1113-MS	Prep Method: 7470A	Prep Date: 11/12/2013 07:37
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/13/2013 09:47
Workgroup #: WG452567	Analyst: PDM	Run Date: 11/13/2013 12:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: M7.111313.120147
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00480		0.000222	0.000111

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: IC2
Client ID: MPL 21-1113-MS	Prep Method: 300.0	Prep Date: 11/19/2013 09:16
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/05/2013 14:51
Workgroup #: WG453381	Analyst: JBK	Run Date: 11/19/2013 16:43
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: I2_111913-29
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	20.5		0.200	0.100
Fluoride	16984-48-8	7.39		0.200	0.100
Sulfate	14808-79-8	91.5		1.00	0.500

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 21-1113-MS	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG452284	Analyst: DIH	Run Date: 11/09/2013 10:36
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: OS13112211120001
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.69		0.000	0.000
Temperature At Determination (C)		12.9		0.000	0.000

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-MS	Prep Method: 310.2	Prep Date: 11/12/2013 17:01
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.025
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-MS	Prep Method: 310.2	Prep Date: 11/12/2013 17:01
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.025
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO ₃)	11-43-8	163		20.0	10.0

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-MS	Prep Method: 310.2	Prep Date: 11/12/2013 17:01
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.025
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO ₃)	13-00-3	163		20.0	10.0

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MS	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/14/2013 11:30
Workgroup #: WG452812	Analyst: DCM	Run Date: 11/14/2013 15:45
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141545-11
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.0360		0.0100	0.00500

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MS	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/14/2013 11:30
Workgroup #: WG452580	Analyst: DCM	Run Date: 11/14/2013 15:30
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141530-14
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.0360		0.0100	0.00500

Certificate of Analysis

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MS	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/14/2013 11:30
Workgroup #: WG452581	Analyst: DCM	Run Date: 11/14/2013 15:50
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141550-12
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0386		0.0100	0.00500

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 21-1113-MS	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG452195	Analyst: DIH	Run Date: 11/11/2013 16:37
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: TI.111113.1637CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		313		50.0	10.0

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 21-1113-MS	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/19/2013 09:41
Workgroup #: WG453359	Analyst: BAF	Run Date: 11/19/2013 10:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: SC131119001.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.819		0.100	0.0500

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 21-1113-MS	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/13/2013 13:48
Workgroup #: WG452422	Analyst: BAF	Run Date: 11/13/2013 16:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: SC13111808420801
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		1.93		0.0500	0.0250

Certificate of Analysis

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MS	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG452920	Analyst: DIH	Run Date: 11/09/2013 10:45
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311091045-07
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2	0.383		0.0500	0.0250

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 21-1113-MS	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG452533	Analyst: ADG	Run Date: 11/13/2013 10:09
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: EN.1311131009-12
Sample Tag: 3	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		712		20.0	10.0

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 21-1113-MS	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG452616	Analyst: BAF	Run Date: 11/14/2013 04:46
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: TC11132013.047
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	11.3		1.00	0.500

Sample #: L13110584-02	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 21-1113-MS	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG452674	Analyst: ADG	Run Date: 11/14/2013 06:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: EN.1311140600-08
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		26.0		5.00	2.50

Certificate of Analysis

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: MPL 21-1113-MSD	Prep Method: 3015	Prep Date: 11/13/2013 10:02
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/13/2013 09:22
Workgroup #: WG452633	Analyst: QX	Run Date: 11/13/2013 14:04
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: T2.111313.140439
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7	0.0312		0.00200	0.00100
Magnesium, Total	7439-95-4	11.3		0.500	0.250
Potassium, Total	7440-09-7	33.4		1.00	0.500
Sodium, Total	7440-23-5	52.1		0.500	0.250
Tin, Total	7440-31-5	0.690		0.500	0.250
Vanadium, Total	7440-62-2	0.631		0.0100	0.00500
Zinc, Total	7440-66-6	0.629		0.0200	0.0100

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: ICP-THERMO2
Client ID: MPL 21-1113-MSD	Prep Method: 3015	Prep Date: 11/13/2013 10:02
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/14/2013 08:35
Workgroup #: WG452633	Analyst: QX	Run Date: 11/14/2013 09:54
Collect Date: 11/08/2013 11:55	Dilution: 10	File ID: T2.111413.095407
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	41.9		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 21-1113-MSD	Prep Method: 3015	Prep Date: 11/12/2013 14:16
Matrix: Water	Analytical Method: 6020	Cal Date: 11/18/2013 09:55
Workgroup #: WG452576	Analyst: JYH	Run Date: 11/18/2013 18:19
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: NI.111813.181941
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0	0.0632		0.00100	0.000500
Arsenic, Total	7440-38-2	0.0654		0.00100	0.000500
Barium, Total	7440-39-3	0.115		0.00300	0.00150
Cadmium, Total	7440-43-9	0.0614		0.000600	0.000300
Chromium, Total	7440-47-3	0.0624		0.00200	0.00100
Cobalt, Total	7440-48-4	0.0595		0.00100	0.000500
Copper, Total	7440-50-8	0.0630		0.00200	0.00100
Lead, Total	7439-92-1	0.0612		0.00100	0.000500
Manganese, Total	7439-96-5	0.0621		0.00200	0.00100
Nickel, Total	7440-02-0	0.0616		0.00400	0.00200
Selenium, Total	7782-49-2	0.0639		0.00100	0.000500
Silver, Total	7440-22-4	0.0644		0.00100	0.000500
Thallium, Total	7440-28-0	0.0620		0.000200	0.000100

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 21-1113-MSD	Prep Method: 7470A	Prep Date: 11/12/2013 07:37
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/13/2013 09:47
Workgroup #: WG452567	Analyst: PDM	Run Date: 11/13/2013 12:04
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: M7.111313.120419
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6	0.00485		0.000222	0.000111

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: IC2
Client ID: MPL 21-1113-MSD	Prep Method: 300.0	Prep Date: 11/19/2013 09:16
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/05/2013 14:51
Workgroup #: WG453381	Analyst: JBK	Run Date: 11/19/2013 17:01
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: I2_111913-30
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	20.6		0.200	0.100
Fluoride	16984-48-8	7.45		0.200	0.100
Sulfate	14808-79-8	91.8		1.00	0.500

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 21-1113-MSD	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG452284	Analyst: DIH	Run Date: 11/09/2013 10:36
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: OS1311221120401
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.71		0.000	0.000
Temperature At Determination (C)		12.8		0.000	0.000

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-MSD	Prep Method: 310.2	Prep Date: 11/12/2013 17:02
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:02
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.026
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO ₃)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-MSD	Prep Method: 310.2	Prep Date: 11/12/2013 17:02
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:02
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.026
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO ₃)	13-00-3	163		20.0	10.0

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 21-1113-MSD	Prep Method: 310.2	Prep Date: 11/12/2013 17:02
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/12/2013 16:51
Workgroup #: WG452424	Analyst: DIH	Run Date: 11/12/2013 17:02
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: S2131112003.026
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO ₃)	11-43-8	163		20.0	10.0

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MSD	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/14/2013 11:30
Workgroup #: WG452812	Analyst: DCM	Run Date: 11/14/2013 15:45
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141545-12
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.0374		0.0100	0.00500

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MSD	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/14/2013 11:30
Workgroup #: WG452581	Analyst: DCM	Run Date: 11/14/2013 15:50
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141550-13
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0374		0.0100	0.00500

Certificate of Analysis

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MSD	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/14/2013 11:30
Workgroup #: WG452580	Analyst: DCM	Run Date: 11/14/2013 15:30
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311141530-15
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.0374		0.0100	0.00500

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 21-1113-MSD	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG452195	Analyst: DIH	Run Date: 11/11/2013 16:39
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: TI.111113.1639CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		311		50.0	10.0

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 21-1113-MSD	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/19/2013 09:41
Workgroup #: WG453359	Analyst: BAF	Run Date: 11/19/2013 10:02
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: SC131119001.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7	0.957		0.100	0.0500

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 21-1113-MSD	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/13/2013 13:48
Workgroup #: WG452422	Analyst: BAF	Run Date: 11/13/2013 16:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: SC13111808421201
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.10		0.0500	0.0250

Certificate of Analysis

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 21-1113-MSD	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG452920	Analyst: DIH	Run Date: 11/09/2013 10:45
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: 1V.1311091045-08
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2	0.409		0.0500	0.0250

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 21-1113-MSD	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG452533	Analyst: ADG	Run Date: 11/13/2013 10:09
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: EN.1311131009-13
Sample Tag: 3	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		702		20.0	10.0

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 21-1113-MSD	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG452616	Analyst: BAF	Run Date: 11/14/2013 04:58
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: TC11132013.048
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	10.9		1.00	0.500

Sample #: L13110584-03	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 21-1113-MSD	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG452674	Analyst: ADG	Run Date: 11/14/2013 06:00
Collect Date: 11/08/2013 11:55	Dilution: 1	File ID: EN.1311140600-09
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		27.0		5.00	2.50

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
November 25, 2013

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AJF - AMANDA J. FICKIESEN	AML - TONY M. LONG
AZH - AFTER HOURS	BAF - BRICE A. FENTON
BJO - BRIAN J. OGDEN	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD	CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CRW - CHRISTINA R. WILSON	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DAK - DEAN A. K
DCM - DAVID C. MERCKLE	DDE - DEBRA D. ELLIOTT
DEV - DAVID E. VANDENBERG	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH	DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON	EDL - ERIN D. LONG
ENY - EMILY N. YOAK	EPT - ETHAN P. TIDD
ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN
HCB - HEIDI C. BROWN	HJR - HOLLY J. REED
JBK - JEREMY B. KINNEY	JDH - JUSTIN D. HESSON
JKS - JANE K. SCHAAD	JLL - JOHN L. LENT
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KDW - KATHRYN D. WELCH
KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON	KRB - KAELY R. BECKER
KSC - KELLY S. CUNNINGHAM	LKN - LINDA K. NEDEFF
LLS - LARRY L. STEPHENS	LSB - LESLIE S. BUCINA
MBK - MORGAN B. KNOWLTON	MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING
MLW - MATTHEW L. WARREN	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON
PDM - PIERCE D. MORRIS	PIT - MICROBAC WARRENDALE
PSW - PEGGY S. WEBB	QX - QIN XU
RAH - ROY A. HALSTEAD	REK - BOB E. KYER
RLB - BOB BUCHANAN	RM - RAYMOND MALEKE
RNP - RICK N. PETTY	RS - ROSEMARY SCOTT
RWC - RODNEY W. CAMPBELL	SAV - SARAH A. VANDENBERG
SEP - SUZANNE J. PAUGH	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	TPA - TYLER P. AMRINE
VC - VICKI COLLIER	WJB - WILL J. BEASLEY
WTD - WADE T. DELONG	XXX - UNAVAILABLE OR SUBCONTRACT

November 25, 2013

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL/MDL).
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, H1	Not detected; Sample analysis performed past holding time.
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below



Fax: 740-373-4835

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Internal Chain of Custody Report

Login: L13110584

Account: 3005

Project: 3005.011

Samples: 3

Due Date: 22-NOV-2013

Samplenum **Container ID** **Products**
L13110584-01 275597 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	F1	11-NOV-2013 14:06	CLS		
2	ANALYZ	F1	SEM	19-NOV-2013 08:35	JBK	CLS	
3	STORE	SEM	A1	22-NOV-2013 11:19	CLS	JBK	

Samplenum **Container ID** **Products**
L13110584-01 275598 ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	12-NOV-2013 08:36	DCM	CLS	
3	STORE	WET	A1	18-NOV-2013 13:18	RS	BAF	

Samplenum **Container ID** **Products**
L13110584-01 275599 PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	11-NOV-2013 14:06	CLS		
2	STORE	WET	A1	14-NOV-2013 11:39	CLS	BAF	

Samplenum **Container ID** **Products**
L13110584-01 275600 TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	13-NOV-2013 13:15	ADG	CLS	
3	ANALYZ	W1	A1	18-NOV-2013 07:15	AZH	ADG	

Samplenum **Container ID** **Products**
L13110584-01 275601 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		<2
2	ANALYZ	W1	WET	12-NOV-2013 12:38	DCM	CLS	
3	STORE	WET	A1	19-NOV-2013 16:28	CLS	TMM	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13110584

Account: 3005

Project: 3005.011

Samples: 3

Due Date: 22-NOV-2013

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-01	275602	AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	PREP	W1	DIG	12-NOV-2013 06:56	REK	AZH	
3	ANALYZ*	DIG	METALS	13-NOV-2013 09:12	PDM	REK	
4	STORE	DIG	A1	13-NOV-2013 15:01	CLS	ERP	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	STORE	W1	A1	11-NOV-2013 14:26	CLS	BRG	

***Sample extract/digestate/leachate**

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-01	275603	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	13-NOV-2013 08:35	DCM	CLS	
3	STORE	WET	A1	18-NOV-2013 08:53	RS	DCM	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-02	275604	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	F1	11-NOV-2013 14:06	CLS		
2	ANALYZ	F1	SEM	19-NOV-2013 08:35	JBK	CLS	
3	STORE	SEM	A1	22-NOV-2013 11:18	CLS	JBK	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-02	275605	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	12-NOV-2013 08:36	DCM	CLS	
3	STORE	WET	A1	18-NOV-2013 13:18	RS	BAF	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13110584

Account: 3005

Project: 3005.011

Samples: 3

Due Date: 22-NOV-2013

Samplenum **Container ID** **Products**
L13110584-02 275606 P04

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	11-NOV-2013 14:06	CLS		
2	STORE	WET	A1	14-NOV-2013 11:39	CLS	BAF	

Samplenum **Container ID** **Products**
L13110584-02 275607 TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	13-NOV-2013 13:15	ADG	CLS	
3	ANALYZ	W1	A1	18-NOV-2013 07:15	AZH	ADG	

Samplenum **Container ID** **Products**
L13110584-02 275608 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		<2
2	ANALYZ	W1	WET	12-NOV-2013 12:38	DCM	CLS	
3	STORE	WET	A1	19-NOV-2013 16:28	CLS	TMM	

Samplenum **Container ID** **Products**
L13110584-02 275609 AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	PREP	W1	DIG	12-NOV-2013 06:56	REK	AZH	
3	ANALYZ*	DIG	METALS	13-NOV-2013 09:12	PDM	REK	
4	STORE	DIG	A1	13-NOV-2013 15:01	CLS	ERP	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	STORE	W1	A1	11-NOV-2013 14:26	CLS	BRG	

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13110584

Account: 3005

Project: 3005.011

Samples: 3

Due Date: 22-NOV-2013

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-02	275610	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	13-NOV-2013 08:35	DCM	CLS	
3	STORE	WET	A1	18-NOV-2013 08:53	RS	DCM	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-03	275611	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	F1	11-NOV-2013 14:06	CLS		
2	ANALYZ	F1	SEM	19-NOV-2013 08:35	JBK	CLS	
3	STORE	SEM	A1	22-NOV-2013 11:18	CLS	JBK	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-03	275612	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	12-NOV-2013 08:36	DCM	CLS	
3	STORE	WET	A1	18-NOV-2013 13:18	RS	BAF	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-03	275613	P04

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	11-NOV-2013 14:06	CLS		
2	STORE	WET	A1	14-NOV-2013 11:39	CLS	BAF	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13110584-03	275614	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	13-NOV-2013 13:15	ADG	CLS	
3	ANALYZ	W1	A1	18-NOV-2013 07:15	AZH	ADG	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13110584

Account: 3005

Project: 3005.011

Samples: 3

Due Date: 22-NOV-2013

Samplenum **Container ID** **Products**
L13110584-03 275615 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		<2
2	ANALYZ	W1	WET	12-NOV-2013 12:38	DCM	CLS	
3	STORE	WET	A1	19-NOV-2013 16:28	CLS	TMM	

Samplenum **Container ID** **Products**
L13110584-03 275616 AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	PREP	W1	DIG	12-NOV-2013 06:56	REK	AZH	
3	ANALYZ*	DIG	METALS	13-NOV-2013 09:12	PDM	REK	
4	STORE	DIG	A1	13-NOV-2013 15:01	CLS	ERP	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	STORE	W1	A1	11-NOV-2013 14:26	CLS	BRG	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L13110584-03 275617 CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	11-NOV-2013 14:06	CLS		
2	ANALYZ	W1	WET	13-NOV-2013 08:35	DCM	CLS	
3	STORE	WET	A1	18-NOV-2013 08:53	RS	DCM	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

